Scotsman

Service Manual for Residential Ice Machine

Models SCCG30 and SCCP30

SCCG30 & SCCP30
Service Manual

Introduction:

This ice machine is the result of Scotsman's decades of experience as an industry leader in the design and manufacture of both commercial and residential ice machines.

This manual includes the information needed to install, start up and maintain the ice machine. Note any Caution or Warning indicators, as they provide notice of potential hazards. Keep this manual for future reference.

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Specifications

This ice machine is designed to be used indoors, in a controlled environment. It can be used in a wide variety of environmental conditions, but there are limits. Use outside of the listed limitations is misuse and will void the warranty.

Air temperature limits:

The ice machine will operate adequately within the limits, but functions best in temperatures between 70 and 80 degrees F.

- Minimum – 50 degrees F. (10°C)
- Maximum – 100 degrees F. (38°C)

Water temperature limits:

- Minimum – 40 degrees F. (4.5°C)
- Maximum – 100 degrees F. (38°C)

Water pressure limits:

- Minimum – 20 psi (1.4 bar)
- Maximum – 80 psi (5.5 bar)

Because the ice machine is making a food product, the water supply to the ice machine must be potable, or fit for human consumption.

Electrical

- 115 volt, 60 Hz. Plug into dedicated 15 amp circuit.
- Power consumption: 400-180 Watts. Varies during Freeze and Harvest cycles.

Voltage limits:

- Minimum - 104 volts
- Maximum – 126 volts

Models: There are six models, all air cooled:

- SCCPA30M-1WU – Pump model, white cabinet
- SCCGA30M-1WU – Gravity drain model, white cabinet
- SCCPA30M-1BU – Pump model, black cabinet
- SCCGA30M-1BU – Gravity drain model, black cabinet
- SCCPA30M-1SU – Pump model, stainless cabinet
- SCCGA30M-1SU – Gravity drain model, stainless cabinet

Options:

Door Panel kits:

Finished door panels are available from Scotsman for attachment to the machine, or a custom panel can be made.

Kit Number	Panel Finish	Handle Finish
KDFW	White	White
KDFWS	White	Stainless Steel
KDFB	Black	Black
KDFBS	Black	Stainless Steel
KDFS	Stainless Steel	Stainless Steel

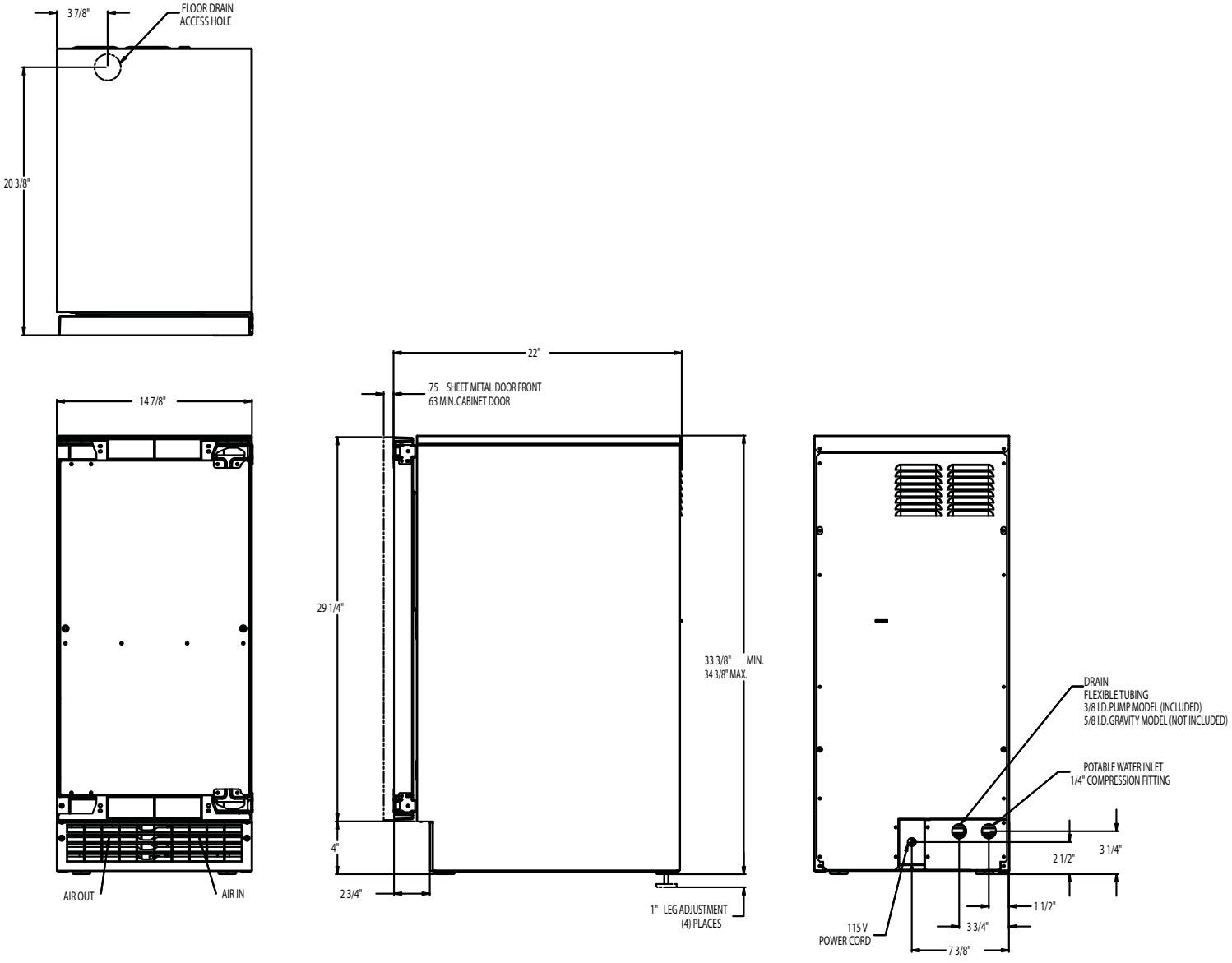
Drain Conversion:

A gravity drain model can be converted to a drain pump model by installing a drain pump kit. The drain pump kit consists of a drain pump, wiring harness and associated tubing. The kit number is A39462-021.

Warranty Information

Warranty information is supplied separately from this manual. Refer to it for coverage. In general, the warranty covers defects in materials or workmanship and does not cover corrections of installation errors or maintenance.

Cabinet Layout



Air flow

The machine takes in room temperature air at the lower right front and forces warm air out the lower left front. Restricting the airflow will adversely affect the ability of the ice machine to make ice.

Scotsman Ice Systems are designed and manufactured with the highest regard for safety and performance. They meet or exceed the standards of agencies like U.L.

Scotsman assumes no liability or responsibility of any kind for products manufactured by Scotsman that have been altered in any way, including the use of any parts and/or other components not specifically approved by Scotsman.

Scotsman reserves the right to make design changes and/or improvements at any time.

Specifications and designs are subject to change without notice.

Water Quality

All water, including potable water supplied by municipalities, contains some impurities or minerals. Water absorbs impurities from the air as rain and/or as it flows through the ground. Some of the impurities are solid particles, these are known as suspended solids, and a fine particle filter will remove them. Other impurities are chemically bonded to the water molecules, and cannot be filtered out, these are called dissolved solids.

Ice made by this machine will have a lower mineral content than the water it was made from. This is due to the method of making ice. Purer water will freeze first in the ice making molds. The reason for this is that anything dissolved in water lowers the water's freezing temperature. This concentrates most of the impurities in the ice machine water reservoir where they may form hard deposits known as scale. The machine dilutes the concentration of minerals by over-filling the reservoir during the harvest cycle (with the excess water flowing down the drain). s. Between 2 and 4 pints of water flow into the unit each cycle. Between 1 and 3.5 pints of that rinses the reservoir and goes down the drain.

Some impurities will inevitably remain, and will stick to the parts in the machine, and will cause malformed ice cubes. Eventually, **built up mineral scale can shorten machine life.**

To keep the machine operating properly, these impurities or minerals will have to be regularly dissolved by an acid cleaning, using Scotsman Ice Machine Scale Remover. Directions for this may be found in the section under cleaning.

Filters and Treatment

In general, it is always a good idea to filter the water. A water filter, if it is of the proper type, can remove taste and odors as well as particles. Some methods of water treatment for dissolved solids include reverse osmosis, and polyphosphate feeders.

RO Water

This machine can be supplied with Reverse Osmosis water. A reverse osmosis system should include post treatment to satisfy the R.O. water's potential aggressiveness. Deionized water is not recommended.

Because water softeners exchange one mineral for another, softened water may not improve water conditions when used with ice machines. Where water is very hard, softened water could result in white, mushy cubes that stick together.

If in doubt about the water, contact a local point of use water specialist for recommendations on water treatment.

Installation Overview

The ice machine must:

- be connected to cold, potable water
- be connected to a drain
- be connected to the proper power supply
- be able circulate air through the vents at the front.

Note: Do not build in so that the door is recessed.

Door Covering

Door Panel

The ice machine is supplied without a conventional door covering so it can be decorated to the user's preference. Scotsman offers several coverings including white, black and stainless steel. In addition, a custom built panel can be placed onto the door.

Door Panel Attachment

To attach a Scotsman supplied panel:

Note: If door swing is to be changed, it must be done before panel is attached.

The panel will be held on by 6 sheet metal screws and 2 machine screws.

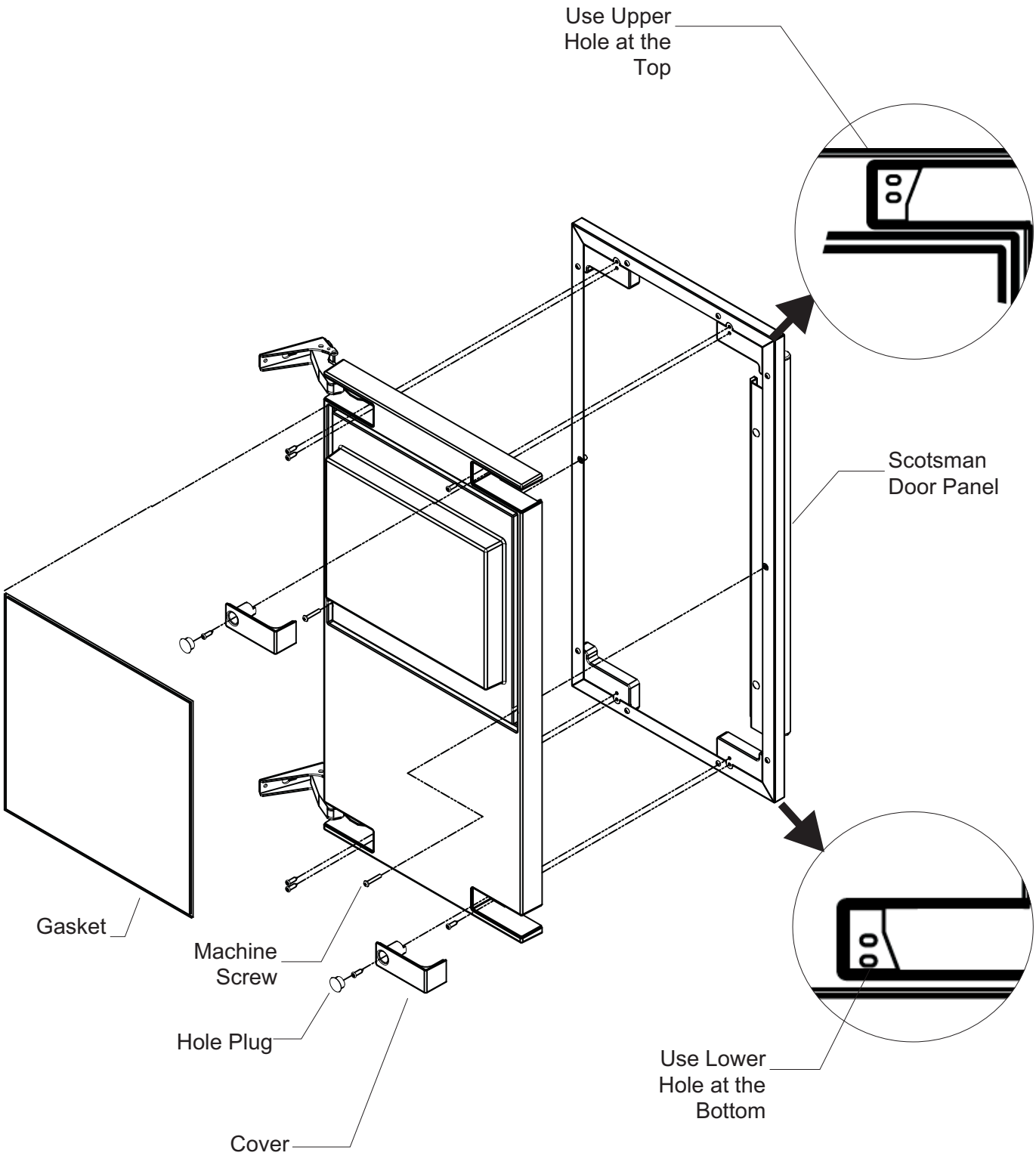
1. Remove the gasket and retain for later use.
2. If the door panel is stainless steel, remove any plastic covering the stainless steel panel.
3. Place the panel onto the outside of the door, and secure it to the door using two machine screws, located at the left center and right center.
4. Fasten the panel to the door using the 6 sheet metal screws. In the hinge area, use the outermost screw holes.
5. Place the covers over the hinge areas, and secure each cover to the door using a sheet metal screw.
6. Insert hole plug over screw installed in step 5.
7. Return the gasket to its original position.

Custom Panel

A custom panel of wood or other material not exceeding 15 lb can be attached to the door. Attachment is from the ice side of the door. Holes are provided in the door for this purpose.

See instructions in information packet to create and attach a custom panel:

Door Panel Attachment



Custom Panel

A custom panel of wood or other material not exceeding 15 lb can be attached to the door. Attachment is from the ice side of the door. Holes are provided in the door for this purpose.

To create and attach a custom panel:

- Panel width: 14 7/8”
- Panel height: Between 29 3/8” and 30 3/8”.
- Panel thickness: 5/8” to ¾”

1. Measure overall height of cabinet opening where ice machine will be (floor to bottom of countertop edge).

2. Determine desired kickplate space (from bottom of door to floor). This could be equal to the adjacent cabinet’s kickplate space or another space the user wants.

3. Subtract kickplate space from cabinet opening.

4. Subtract 1/8 or more for clearance space between top of door and bottom of countertop edge from cabinet opening. This is the maximum door length.

5. Cut panel to width.

6. Cut panel to length (cabinet space - kickplate space - top clearance = length).

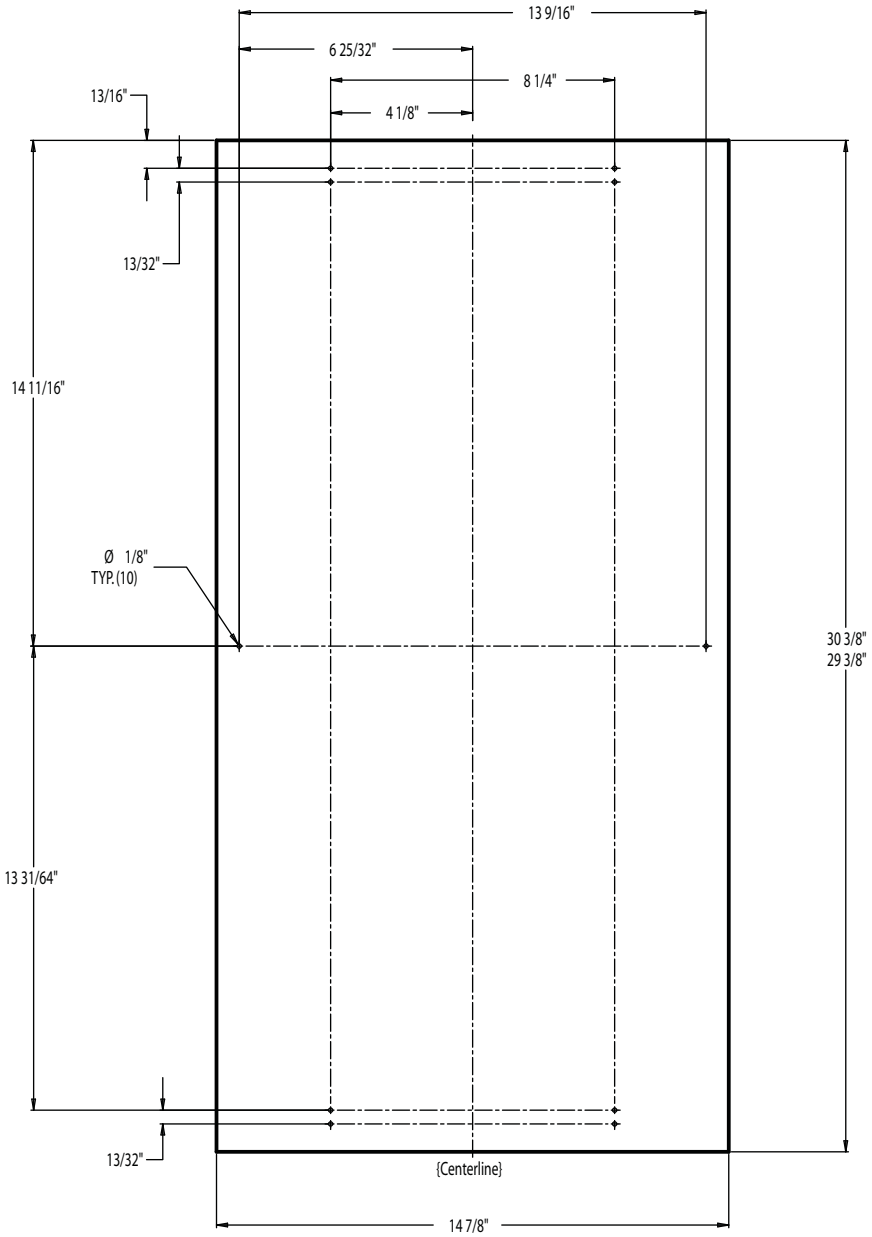
7. Determine top of panel.

8. Mark hole locations using drawing on the back of these instructions. Drawing assumes top of panel will be flush with top of door. Measure hole locations from the top of the panel.

9. Drill pilot holes for wood screws. Use drill stop to prevent drilling through the panel.

10. Mount panel to door using wood screws or supplied panel mounting screws.

Note: When installed Ice machine must be adjusted for height to position top of door to desired clearance.



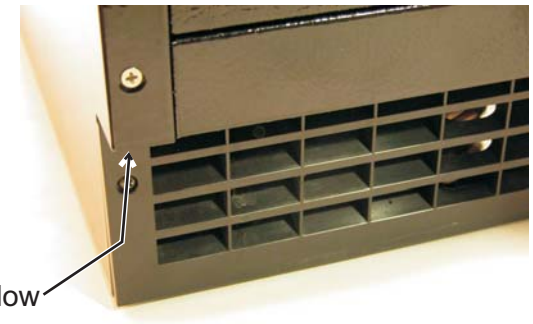
Door swing change

The door can be attached to open with hinges on the left or right using new brackets shipped loose in the ice bin. Retain all screws for re-use.

To change:

1. Remove innermost screw holding each hinge to cabinet, loosen the other.
2. Slide hinges to the side and remove door from cabinet. Remove screws loosened in step 1 from both hinge brackets.
3. Remove two screws securing top panel to back, pull top panel back and remove from cabinet.

4. Remove two screws at the top and lift the door hinge bracket out of the cabinet. Replace with the one supplied loose with the machine. Fasten it to the cabinet using the original screws.
5. Return the top panel to the cabinet and fasten it with the original screws.
6. Remove kickplate and front service panel.
7. Remove two front screws and two bottom screws holding the bottom cross brace to the cabinet. Replace the brace with the one supplied loose with the machine. Secure it using the original screws.



8. Remove the upper hinge and move it to the door's opposite side, bottom location. Secure using the original screws.
9. Remove the original lower hinge and move it to the door's opposite side, upper location. Secure using the original screws.
10. Install a screw removed in step 2 in outermost hole of upper and lower cross braces.
11. Attach the door to the cabinet using the original screws.
12. Return kickplate and front service panel to their original positions and attach to the cabinet using the original screws.

Installation Notes

Built In Situations: If a finished floor is to be installed in the area after the ice machine has been built in, shims the expected thickness of the floor should be installed under the unit to keep the machine level with the planned floor level.

Installations on a slab: Use a pump model and pump the water to the point of drainage. Pump models will pump 1 story (10 feet) high.

Installations over a crawl space or basement: Either gravity drain or pump model units may be used, if there is not enough room behind the machine for a drain/waste receptacle, the drain will have to be below the floor.

Note: When installed in a corner, the door swing may be limited due to handle contact with the wall or cabinet face.

Installation: Water & Drain

The recommended water supply tubing is ¼ inch OD copper. Stainless steel flex or reinforced PVC tube may also be used. Install an easily accessible shut-off valve between the supply and the unit. This shut-off valve should not be installed behind the unit.

Note: Do not use self-piercing type valves.

1. Remove the front service panel.

2. Route the tubing through the right hole in the back to the inlet water solenoid valve inlet.

3. Install a compression fitting on the tubing and connect to the inlet of the solenoid.

Drains

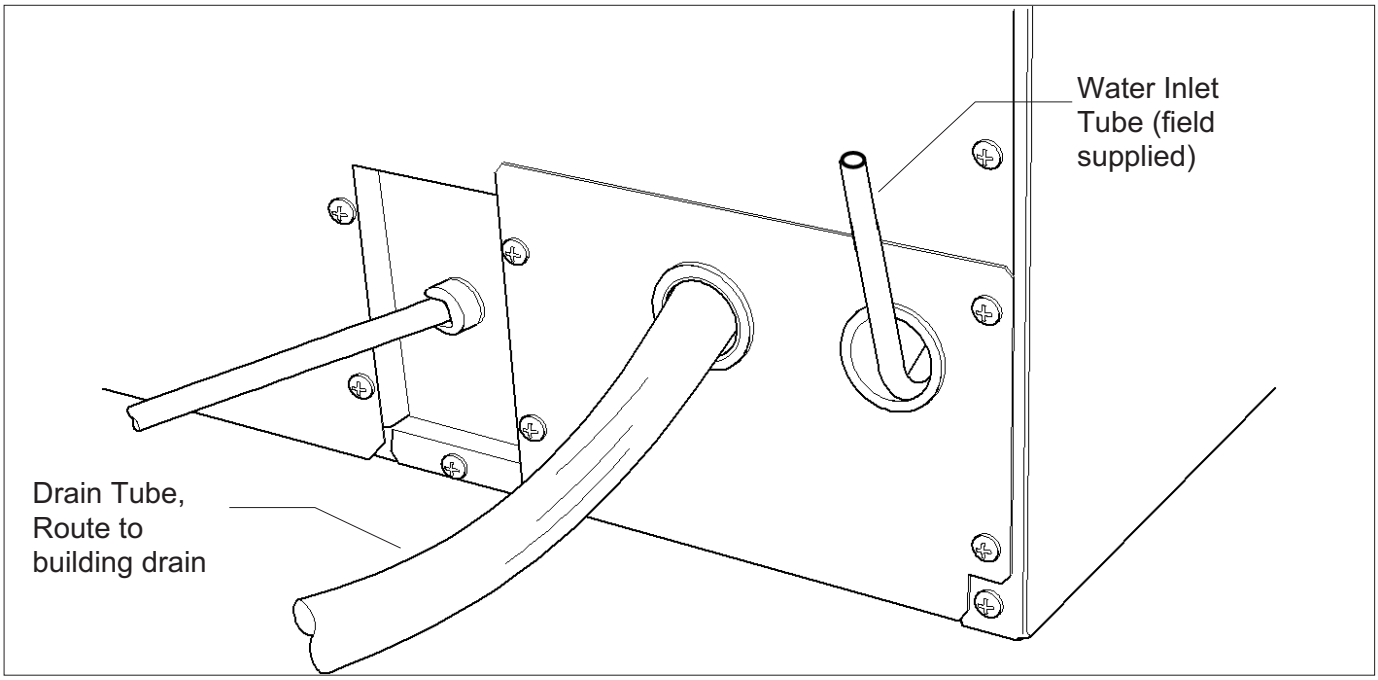
There are two types of ice machine models, one that drains by gravity and one that has an internal drain pump.

Drain Pump Model drain installation

1. Locate the coil of 3/8” ID plastic drain tubing secured to the back of the unit.

2. Route the plastic drain tube from the back of the unit to the drain connection point.

IMPORTANT NOTE: Often an air gap is required by local codes between the ice maker drain tube and the drain receptacle.



Back View, Drain Pump Model

Gravity Drain

Caution: Restrictions in the drain system to the machine will cause water to back up into the ice storage bin and melt the ice. Gravity drain tubing must be vented, have no kinks and slope to the building drain. Air gaps are typically required by local code.

1. Place the ice machine in front of the installation opening. Adjust leveling legs to the approximate height.

2. Remove the front service access panel and the upper back panel.

Note: If you are connecting a gravity drain model and the drain opening has been located in the floor under the base pan according to the pre install specifications, follow steps 3 through 5 to drain the unit through the base. If not, proceed to step 6b.

3. Remove the clamp and barbed elbow and take off the plastic cover in the base pan below the drain hose.

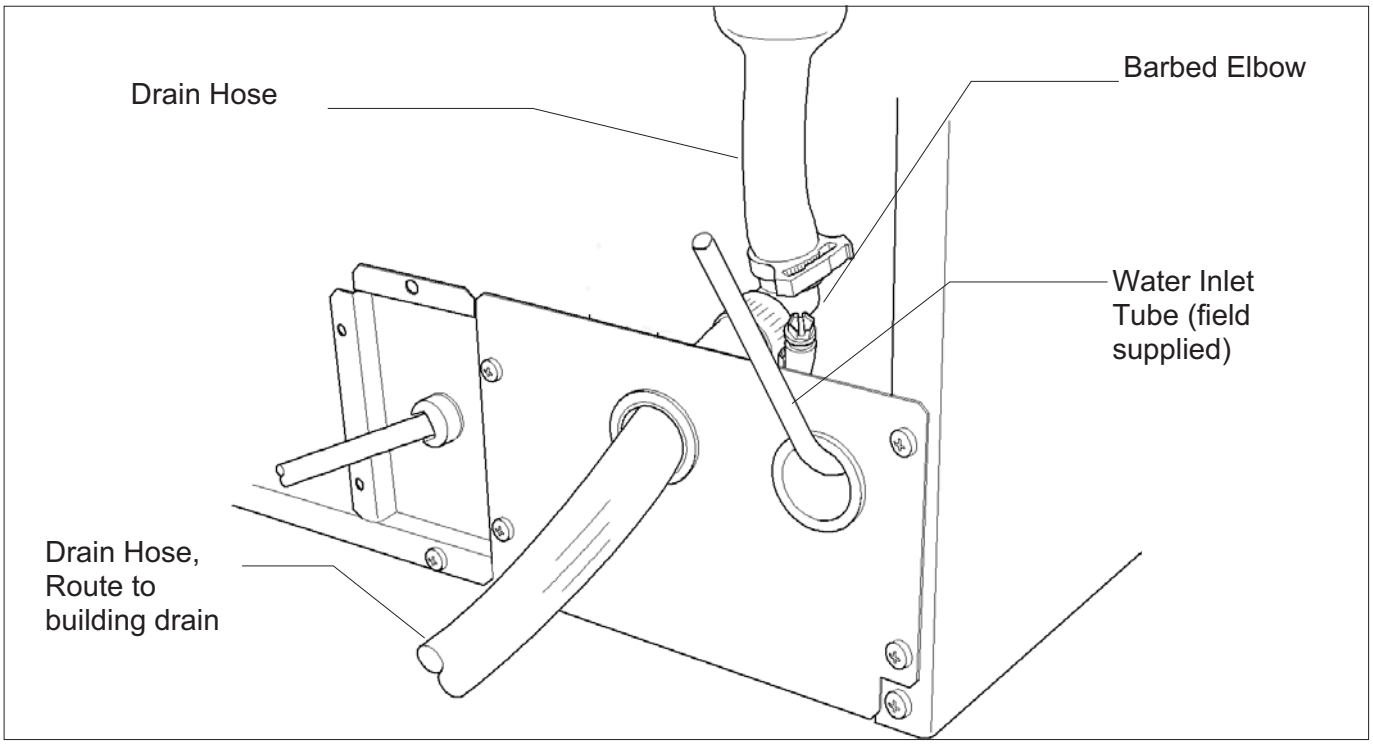
4. Connect a straight 5/8” barbed connector to the drain hose, securing with the clamp removed in step 4.

5. Cut an 8” piece of 5/8” ID X 7/8” OD tygon (clear plastic) tubing. Slide one end of the tube onto the outlet of the barbed connector and secure with a clamp. Leave the other end of the tube lying on the floor of the base pan until the unit is positioned over the floor drain.

6. Route the drain tube. Either a) Insert the drain tube through the base pan into the floor drain or b) Route the drain tube through the left hole in the lower back panel and connect to barbed elbow and secure with a clamp.

7. Reinstall the upper back panel.

8. Reinstall the service access panel. Level the unit.



Back View, Gravity Drain Model

Electrical & Start Up

The ice machine is supplied with a power cord. Do not remove the grounding pin from the cord's plug. Do not use extension cords. Follow all codes. Connect the machine to its own 115 volt, 15 amp circuit.

1. If the electrical outlet for the ice maker is behind the unit, plug in the unit.
2. Position the unit in the installation opening.
3. Turn on the water supply. Make sure that the ice maker is plugged in and the power is on.
4. Slide unit into installation opening, paying careful attention to water supply and drain connections. Do not kink!
5. Pour a couple of quarts of water into the ice storage bin; on drain pump equipped machines the drain pump should start and water should pump out. Check for leaks.
6. Replace the service access panel.
7. Level the unit as needed.

Installation check list:

1. Has the unit been connected to the proper water supply?
2. Has the water supply be checked for leaks?
3. Has the unit been connected to a drain?
4. Has the drain been tested for flow and leaks?
5. Has the unit been connected to the proper electrical supply?
6. Has the unit been leveled?
7. Have all packing materials been removed from the machine?
8. Has the door covering been installed?

Initial Start Up

1. Turn on the water supply.
2. Switch on the electrical power.
3. Move the On/Off switch to the ON position.

4. The compressor will start and water will begin to flow into the unit. When the reservoir is full, water will start to drain from the machine. After a few minutes the water pump and fan motor will begin to operate and the first ice making cycle will have begun.

No adjustments are needed.

After about a half hour, ice will fall into the ice storage bin. The machine makes 12 cubes per batch. It is normal for the first batches of ice to melt, that continues until the bin has cooled. It will take 16 to 24 hours of continuous run time to fill the ice bin. When the bin is full of ice, the ice machine will shut off. It will automatically restart when the ice level falls, either from use or normal meltage.

Cube Size Adjustment

The size of the ice cubes is determined by how long the ice machine is in the freezing cycle. That is controlled by the cube size thermostat.

The cube size thermostat's sensing portion is attached to the suction tube, near the outlet of the evaporator. As the machine makes ice, the temperature of the suction tubing falls. When it reaches a preset point, the thermostat's contacts close and connect power to the electronic timer. The electronic timer finishes the freeze cycle.

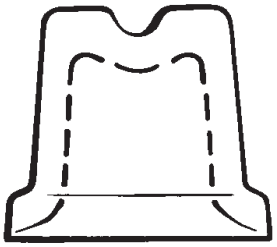
Adjustment

There is only one proper ice cube size, see the diagram to the right. If the cubes are not the correct size, adjust the cube size thermostat.

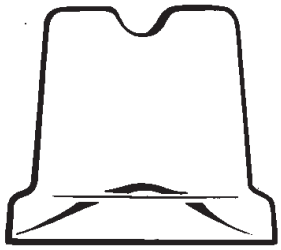
Rotate the cube size thermostat's adjustment screw clockwise to increase the size of the cube.

Rotate the cube size thermostat's adjustment screw counter clockwise to make the ice cube size smaller.

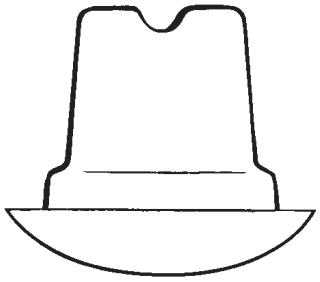
Side Views of Cubes



Too Small, Adjust Cycle Longer



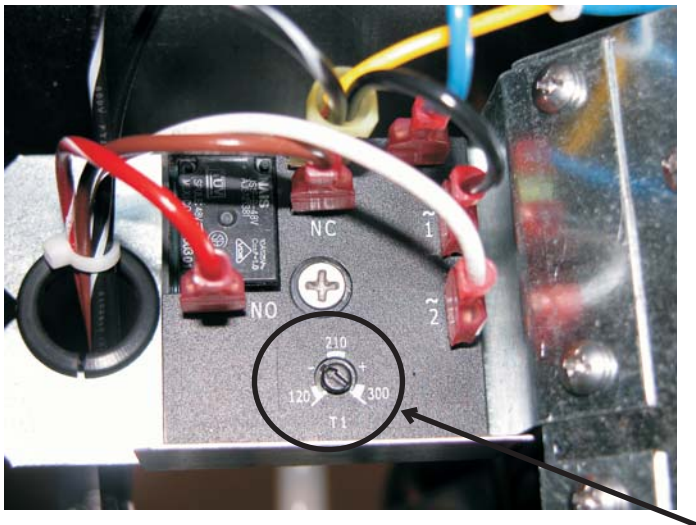
Just Right



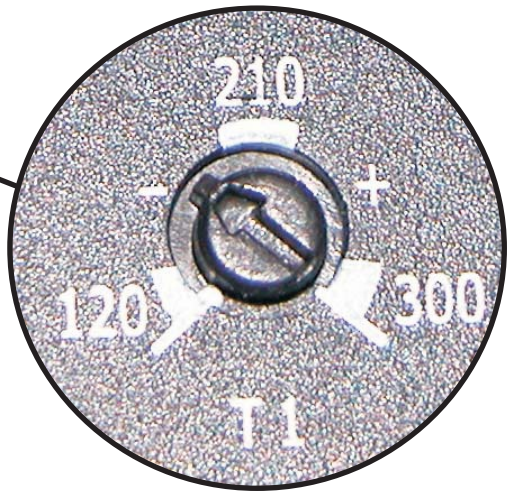
Too Large, Adjust Cycle Shorter

Harvest Time Adjustment

The harvest time can be adjusted so that all the ice is released during the harvest period, with a few seconds extra for a safety margin. The adjustment range is between 2 to 5 minutes.



There is an adjustment screw on the surface of the electronic timer. Rotate the screw CCW to reduce harvest time, and CW to increase it. It should be set to match the machine's performance. If the machine takes 2 and a half minutes to release the ice, the harvest time should be set to about 3 minutes.



Use

No special instructions are needed for use. Just take as much ice as you need, the machine will replace it. A scoop is provided, and it can be stored in the machine using the loop of tubing on the right side as a holder.

The machine can be shut off anytime by moving the On/Off switch to OFF.. The machine will shut off immediately.

What shouldn't be done?

Never keep anything in the ice storage bin that is not ice. Objects like wine or beer bottles are not only unsanitary, but the labels can slip off and plug up the drain.

Never allow the machine to operate without regular cleaning. The machine will last longer if it is kept clean. Regular cleaning should happen at least once per year, and preferably twice. Some water conditions will dictate even more frequent cleaning of the ice making section, and some carpets or pets will dictate more frequent cleaning of the condenser.

Noise:

The ice machine is designed for quiet operation, but will make some noise during the ice making cycle. During a freezing cycle, it is normal to hear the fan moving air and the water pump circulating water. Ice hitting the bin or ice in the bin can be heard during harvest.

If ice making noise is objectionable, an appliance grade timer can be added to the power supply. Set the timer to turn the machine off at the time(s) of day when the noise is most objectionable.

Normal cubes are tapered cylinders. If the cubes are ragged and mis-shaped, mineral scale must be removed from the ice making system

Maintenance

There are 5 things to keep clean:

1. The outside cabinet & door.

2. The ice storage bin.

3. The condenser.

4. The ice making system.

5. The ice scoop.

How to clean the cabinet.

Wipe off any spills on the surface of the door and handle as they occur. If anything spilled on the door or gasket dries onto the surface, wash with soap and warm water to remove.

How to clean the ice storage bin.

The ice storage bin should be sanitized occasionally. It is usually convenient to sanitize the bin after the ice making system has been cleaned, and the storage bin is empty.

A sanitizing solution can be made of 1 ounce of household bleach and two gallons of hot (95^{o}F. – 115^{o}F.) water. Use a clean cloth and wipe the interior of the ice storage bin with the sanitizing solution, pour some of the solution down the drain.

Allow to air dry.

How to clean the condenser and winterize.

Condenser cleaning

The condenser is like the radiator on a car, it has fins and tubes that can become clogged with dirt and lint. To clean:

1. Remove the kickplate and front service panel.

2. Locate the condenser surface.

3. Vacuum the surface, removing all dust and lint.

Caution: Do not dent the fins.

4. Return the kickplate and front service panel to their original positions. Fasten them to the cabinet using the original screws.

Winterizing

1. Clean the ice making system.

2. Open the door and push and release the On/Off switch to turn the machine off.

3. Turn off the water supply.

4. Drain the water reservoir by removing the rubber cap under the reservoir - it's near the back wall of the ice storage bin.

5. Disconnect the incoming water line at the inlet water valve.

6. Open the door, push and release the on/off switch to turn the machine on.

7. Blow air through the inlet water valve; a tire pump could do the job.

8. Drain pump models should have about 1/2 gallon of RV antifreeze (propylene glycol) poured into the ice storage bin drain.

Note: Automotive antifreeze must NOT be used.

9. Switch off and unplug the machine.

How to remove scale from the ice making system.

1. Scoop out all of the ice, either discard it or save it in an ice chest or cooler.

2. Switch the machine Off.

3. Pour 8 ounces of Scotsman Ice Machine Scale Remover (available from a local Scotsman Distributor or Dealer) into the ice machine reservoir.

4. Switch the machine On.

5. Operate the machine for about 2 hours.

6. Pour a gallon of hot (95°F. – 115°F.) water into the bin to melt ice formed during the cleaning process and to flush out the drain.

7. Clean the bin liner of mineral scale by mixing some ice machine scale remover and hot water, and using that solution to scrub the scale off of the liner.

8. Rinse the liner with hot water.

9. Sanitize the bin interior.

10. Replace the ice removed in step 1.

The ice scoop should be washed regularly, wash it just like any other food container.

System Information

Overall:

- Refrigerant: 8 oz R-134a
- Compressor: Hermetic, 700 BTUH
- Condenser: Forced draft
- Fan blade: 3 blade, 6 inch
- Evaporator: Inverted, 12 cube cells. copper, continuous serpentine
- Metering device: Cap tube
- Defrost method: Hot gas bypass with water assist
- Spray method: 6 water jets
- Water charge: 30 ounces
- Water valve: 115 volt solenoid, .19 GPM
- Water fill time: Varies with harvest time
- Spray pump: Pedestal type.
- Drain pump: Magnetic drive, controlled by pressure switch
- Purge method: Overflow standpipe
- Control method: Electronic timer with electro mechanical cube size thermostat
- Cycle control: Reverse acting thermostat
- Cube size adjustment: Thermostat cut in change
- Harvest cycle adjustment: Harvest timer change, range between 2 and 5 minutes.
- Bin control: Thermostat. Opens on temperature fall, Cut Out: 35 degrees F. Cut In 45 degrees F. Range is adjustable.

Electrical Components:

- Compressor
- Fan motor
- Spray pump motor
- Drain pump motor
- Drain pump switch
- Inlet water solenoid valve
- Freeze & harvest timer
- Cube size thermostat
- Hot gas valve
- Bin thermostat

Electrical Sequence:

The machine uses a temperature initiated, timed cycle to make ice.

A closed bin thermostat connects power to the compressor and electronic timer. The timer NO contacts close, connecting power to the water and hot gas solenoids.

The compressor starts, the inlet water solenoid valve opens and fills the reservoir. The harvest timer starts. At the end of the pre-set harvest time, the timer will open the NO contacts, stopping the inlet water valve and hot gas valve. At the same time, it closes the NC contacts, powering the fan and pump motors. This is the beginning of the freeze cycle.

The freeze cycle continues until the cube size contacts close, this starts a freeze timer. No other changes occur until the freeze timer expires, when the NC contacts open and the NO contact close, starting the harvest cycle.

The harvest cycle is time controlled. At the end of the harvest cycle the unit returns to a freeze cycle.

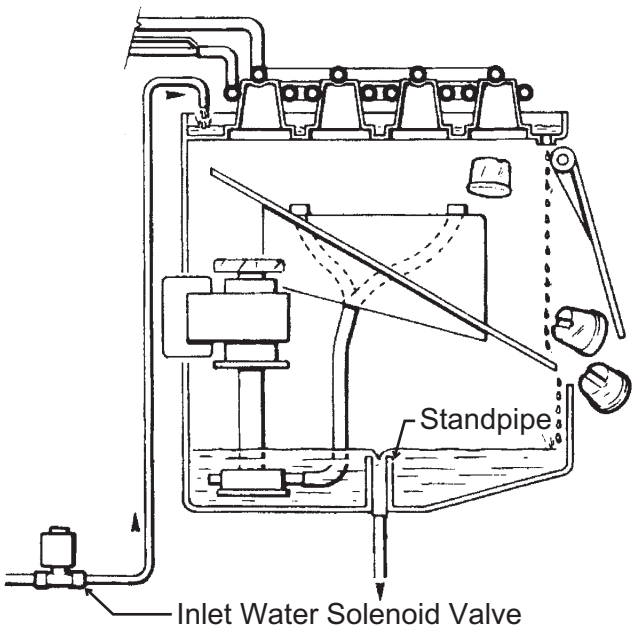
Bin control.

The machine's on and off modes are regulated by a bin thermostat. The cap tube for the bin thermostat is in the tube that holds the scoop. The machine will only begin ice making when the thermostat's contacts close. The machine will stop ice making whenever the bin thermostat contacts open.

Water System

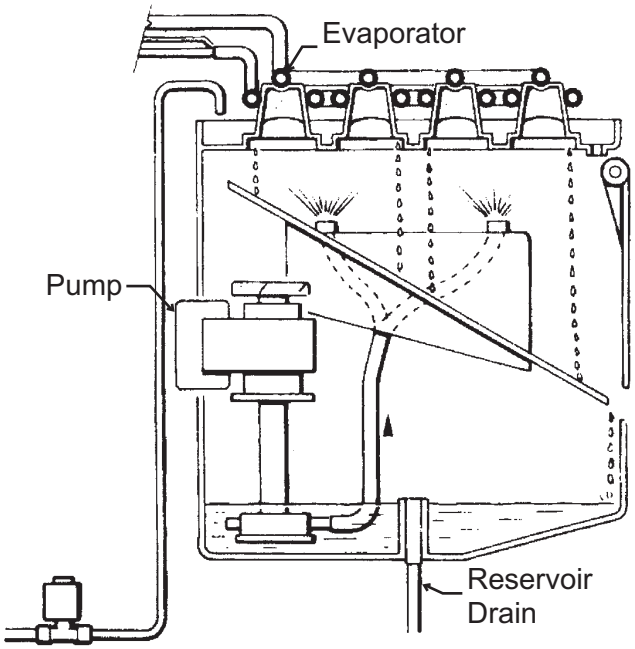
The water system consists of a water pump, inlet water solenoid valve, reservoir with overflow standpipe and spray platform.

Harvest cycle: The inlet water solenoid valve is open during the harvest cycle. Water flows through it to the top of the machine and onto the evaporator platen. The water flows across the platen, warming it up to assist in releasing the ice. Water drains from the platen through drain holes at the platen corners. That water, now chilled by contact with the evaporator platen, drains into the reservoir. When the reservoir is full, excess water drains out the standpipe. When harvest is complete, the inlet water solenoid closes and water stops flowing into the machine.



Harvest Cycle Water Schematic

Freeze cycle: The water pump takes water from the reservoir and forces it through the 6 spray jets, causing the water to contact the inverted cups of the evaporator. Unfrozen water falls back into the reservoir. As ice forms in the cups, the water level in the reservoir fails. This continues until the harvest cycle starts.



Freeze Cycle Water Schematic

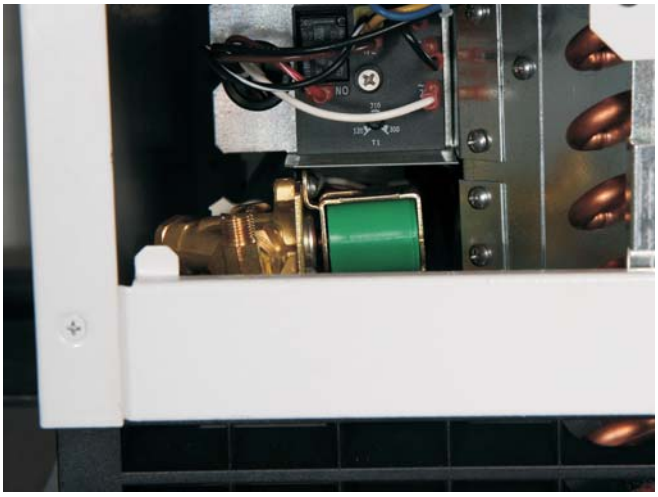
Components

Bin Thermostat Bracket and Scoop

Model and Serial Plate Location

Evaporator Platen

Evaporator & Top of Unit



Inlet Water Solenoid Valve

Condenser and Bin Thermostat

Performance Information

Listed cycle times are after the 3rd consecutive cycle, will vary a minute or so, and will be longer for built in units.

Freeze Cycle, Minutes		Air Temperature					
		100	90	80	70	60	50
Water Temperature	100	60	46	45	43	42	40
	90	54	44	42	40	38	36
	80	45	40	38	37	35	34
	70	40	37	35	33	32	30
	60	31	30	27	26	24	23
	50	24	23	22	21	20	19
	40	23	21	20	19	18	18

Harvest time is usually 2 minutes, longer in very cold conditions.

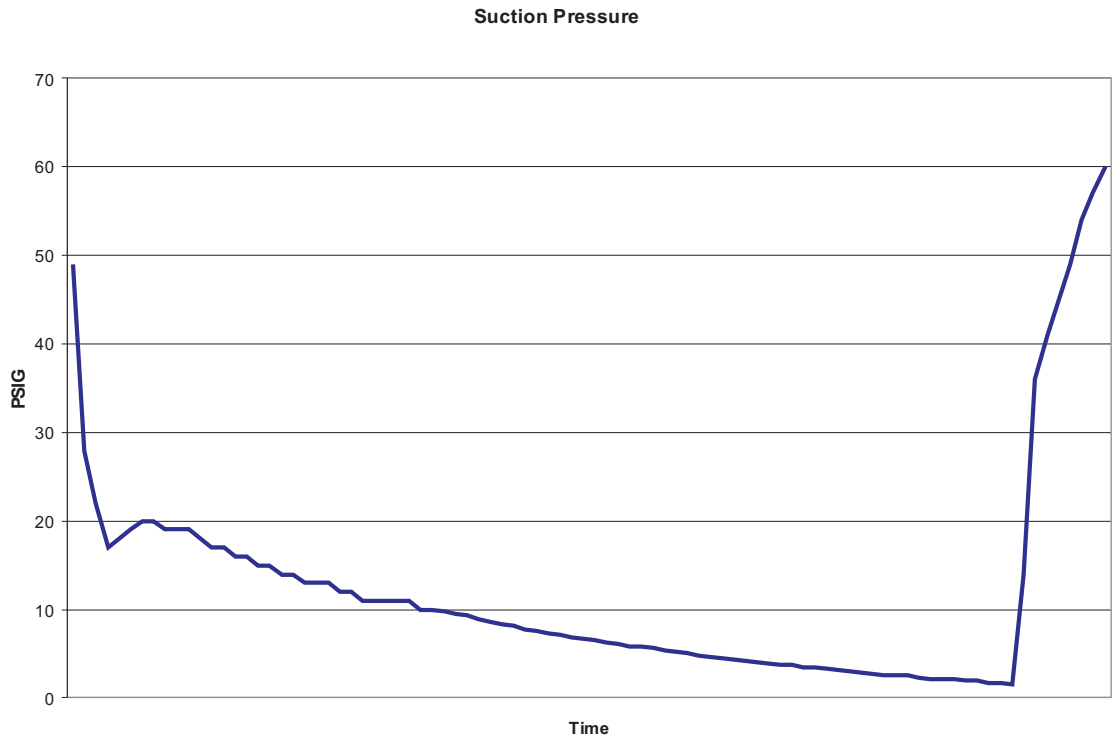
Total Cycle, Minutes		Air Temperature					
		100	90	80	70	60	50
Water Temperature	100	62	48	47	45	44	42
	90	56	46	43	42	40	38
	80	47	42	39	39	37	36
	70	42	39	37	35	33	32
	60	32	32	29	26	26	23
	50	26	25	23	23	22	24
	40	25	22	22	21	24	23

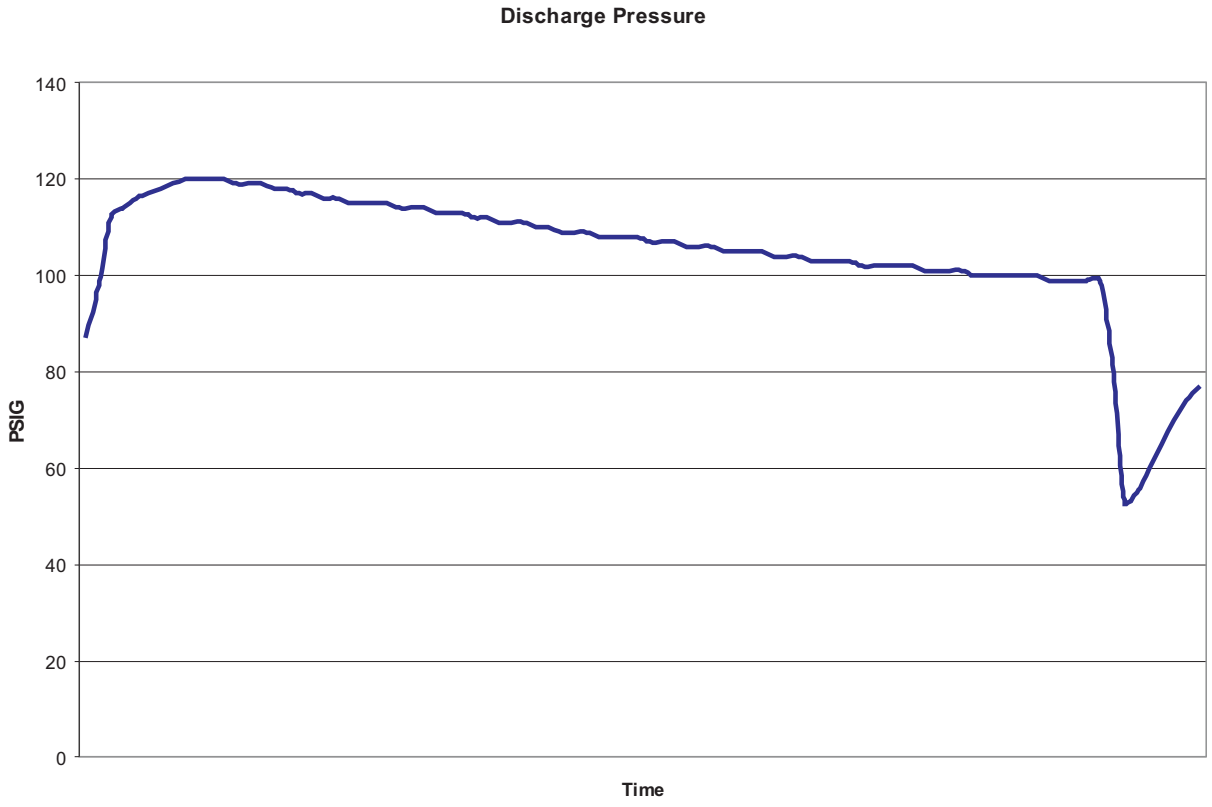
Ice per cycle: 1/2 lb

Water drained / cycle: Varies by harvest cycle length and purge setting. Typically about 3 pints.

Compressor amps: 2.9 - 3.1

Refrigeration System





Service Diagnosis

No Ice

Problem	Likely Cause	Probable Solution
No power to unit	Power disconnected	Check breaker or fuse. Reset or replace, restart and check
Very long freeze cycle		
	Dirty condenser	Clean condenser
	Restricted location, intake air too hot or blocked	Eliminate restriction, have machine moved
	Evaporator thermostat not sensing properly	Check thermostat
	Spray jets dirty	Remove spray platform and clean spray jets
	Inlet water valve leaks through during freeze	Check inlet water valve
	Low on refrigerant	Check cube formation,
	Connected to hot water	Check for bleed thru from / missing check valve in building water supply
Cannot make ice	Spray pump not pumping	Check pump motor
	Fan motor not turning	Check fan motor, check fan blade
	Pump hose disconnected	Check hose
	Water leak	Check curtain, sump drain cap
	Very low on refrigerant	Add access valve, add refrigerant as a test. If unit makes ice, find and correct leak.
	Compressor not operating	Check compressor start components
		Check compressor voltage
		Check compressor windings
	Hot gas valve leaks through during freeze	Check hot gas valve for hot outlet during freeze
	Compressor inefficient	Check compressor amp draw, if low and all else is correct, change compressor

Service Diagnosis

Makes excessive noise

Problem	Likely Cause	Probable Solution
Fan blade vibrates	Blade is bent	Replace fan blade
	Fan motor mount is broken	Replace motor mount
Compressor vibrates	Mounting loose	Check mounting
Water pump vibrates	Pump bearings worn	Replace pump
Panels vibrate	Mounting screws loose	Tighten screws

Makes ice, does not harvest

Problem	Likely Cause	Probable Solution
Ice wrong size	Environment changed	Adjust cube size
Little heat to evaporator	Hot gas valve does not open	Check voltage to coil when unit is in harvest, check controller indicator light.
	Water temperature very low	Adjust harvest time

Makes poor quality ice

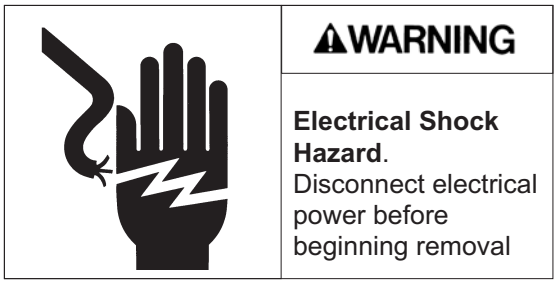
Problem	Likely Cause	Probable Solution
Spray pattern poor	Spray jets dirty	Clean jets
Runs out of water	Water leaking from reservoir	Correct leak
High TDS water supply	Groundwater supply	Treat water

Makes ice, but melts rapidly

Problem	Likely Cause	Probable Solution
Restricted drain, water in bin	Gravity drain hose has air block	Check for kinks or traps
	Pump model switch not starting pump	Check / replace switch

Bin Thermostat

1. Disconnect electrical power.



2. Remove service panel.

3. Remove back panel.

Note: If unit is built in it must be pulled out to change the bin thermostat.

4. Pull cap tube out from the back of the ice storage bin and cap tube holder.

5. Remove two screws and the bin thermostat contact section from its mounting bracket.

6. Disconnect two wires from the bin thermostat contact section and remove the thermostat from the ice machine.

7. Reverse to reinstall.

Inlet Water Solenoid Valve

1. Disconnect electrical power.

2. Remove service panel.

3. Shut water supply OFF.

4. Disconnect inlet water supply tube from inlet water solenoid valve.

5. Unplug wire harness from valve coil.

6. Remove two screws holding valve to chassis.

7. Squeeze hose clamp larger and push away from solenoid valve outlet.

8. Pull hose from outlet of valve.

9. Reverse to reassemble.

Curtain

1. Shut unit off.

2. Loosen both thumbscrews holding curtain bracket to freezing chamber.

3. Pull out and remove curtain with bracket from ice machine.

4. Reverse to reassemble.

Spray Platform

1. Remove curtain.

2. Lift spray platform up until it disconnects from its fitting.

3. Pull forward and remove from the ice machine.

4. Reverse to reassemble.

Water Pump

1. Disconnect electrical power.

2. Remove spray platform

3. Remove back panel.

Note: If unit is built in it must be pulled out to change the water pump.

4. Disconnect power and ground wires from pump motor.

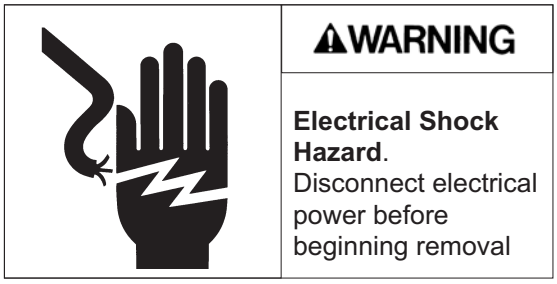
5. Rotate pump body CW and lift up to remove it.

6. Reverse to reassemble.

Removal and Repair

Cube Size Thermostat

1. Disconnect unit from electrical power.



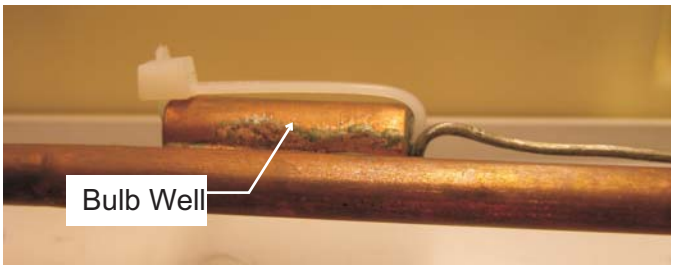
2. Remove door.

3. Remove top panel.

4. Remove service panel.

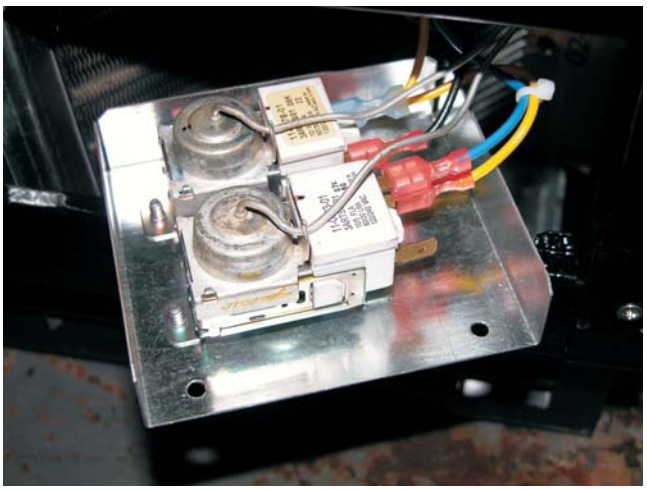
5. Remove back panel.

6. Cut cable tie holding cube size bulb in evaporator well. Pull bulb out of well.



7. Pull cube size cap tube and bulb from evaporator area and allow to hang freely behind machine.

8. Remove two screws holding thermostat bracket to cabinet. Drop bracket down and pull forward to get access to wires and screws.



9. Disconnect wires from cube size thermostat.

10. Remove two screws holding cube size thermostat to bracket. Pull cube size thermostat from the machine.

11. Route new cube size thermostat bulb and cap tube from the front, through the hole in the air baffle and into the back of the unit.

12. Attach cube size thermostat to thermostat bracket, attach wires.

Note: Replacement thermostat wiring may be different from the original. Check for instructions.

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13. Attach bracket to cabinet.

14. Route cube size cap tube and bulb up the back of the machine and into the evaporator area.

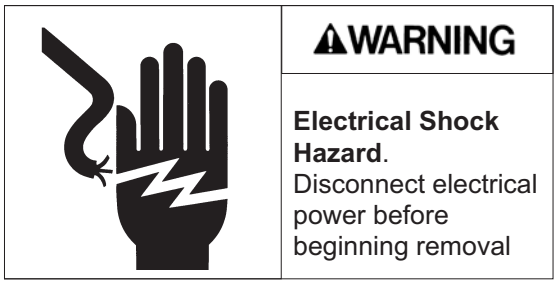
15. Insert bulb into evaporator well. Secure with tie wrap.

16. Return all panels to their normal positions ans secure with the original screws.

17. Reconnect power. Test machine, adjust cube size as needed.

Harvest Timer

1. Disconnect electrical power.



2. Remove service panel.

3. Remove screw in center of timer, pull out and disconnect wires.

4. Reverse to reassemble.

Removal and Repair - Cabinet Removal

Certain components require the removal of the cabinet for repair access.

1. Shut machine off, if making ice, melt ice with hot water.

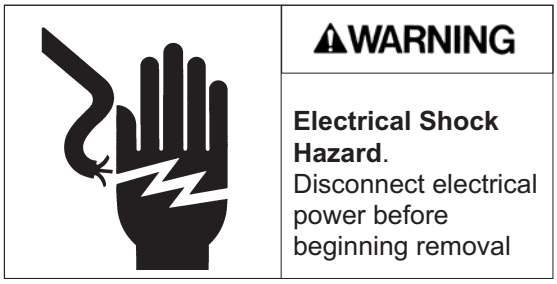
2. Remove all ice.

3. Drain reservoir.

4. Remove service panel and kick plate.

5. Remove back panel.

6. Disconnect electrical power.

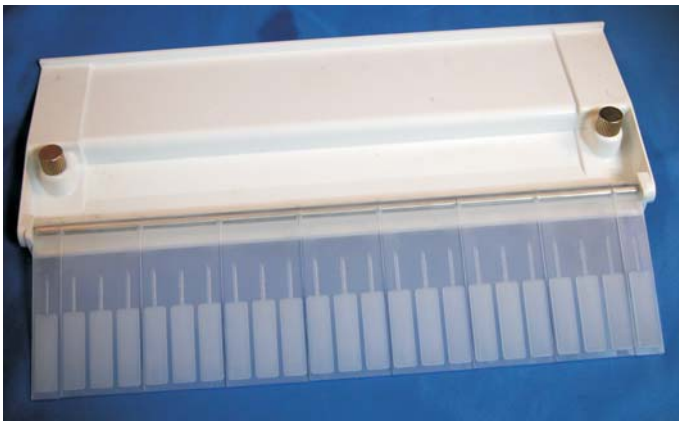


7. Disconnect water and drain tubing.

8. Remove door.

9. Remove top panel.

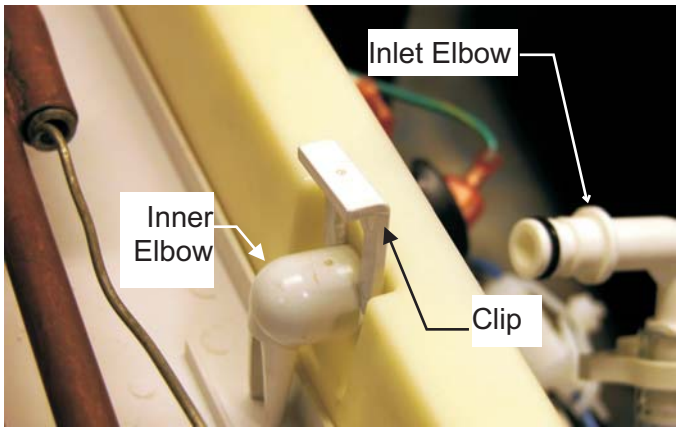
10. Remove curtain & hanger.



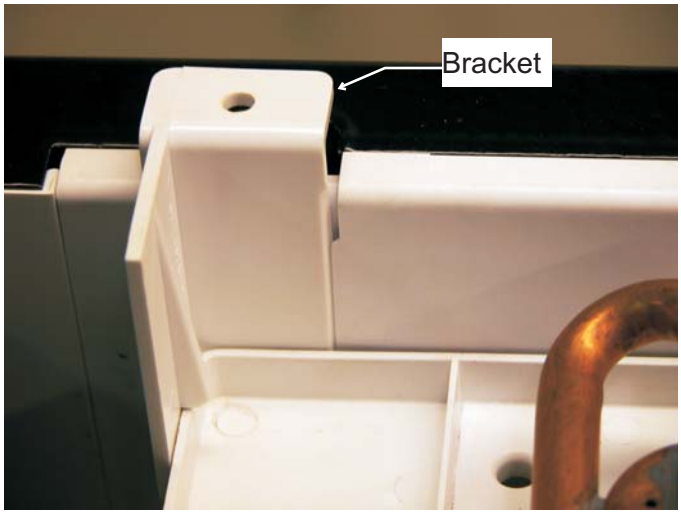
11. Locate elbows where water flows onto the evaporator platen.

12. Pull clip up and pull water inlet elbow out of inner elbow.

13. Push inner elbow back and rotate it until it points straight up, then push it back through the hole in the back of the freezing compartment.



14. Remove two screws holding freezing compartment brackets to cabinet, lift brackets up.



15. Lift evaporator platen up and tilt back enough for bin assembly to clear the base.

16. Remove air baffle.

17. Unplug wire harness connector (at back of bin).

18. Remove 1 screw at each corner of the base.

19. Lift bin assembly off the base.

Note: Prop evaporator assembly up. A 3' length of 3/4" PVC tubing with one end inserted into the cup mold and the other against the base will hold it up.

The hot gas valve, fan motor, condenser and compressor are now exposed for service.

Refrigeration Service

This ice machine use R-134a type refrigerant. There are specific rules for handling that refrigerant.

To check for system pressures, add a field supplied clamp-on type service valve as a temporary means of system access. After diagnosis and before final repair, replace the clamp-on type valve with valves that are brazed onto the process tubes of the system.

Use a low flow of dry nitrogen when brazing on the system.

Install a new filter drier when replacing a refrigeration component or after a refrigerant leak repair.

Evacuate the system to at least 300 microns and use a micron gauge to measure the evacuation level.

Weigh in the nameplate charge. The machine is critically charged and a partial ounce mis-charge will affect performance.

SCCG30 & SCCP30 Service Parts

This is the illustrated parts list for the SCCG30 and the SCCP30 Residential Ice Machines

When ordering a service part, always refer to the complete model number of the equipment being repaired to be sure of obtaining the correct part. Many times there are slight differences between models, and having the complete model number will aide in selecting the correct part.

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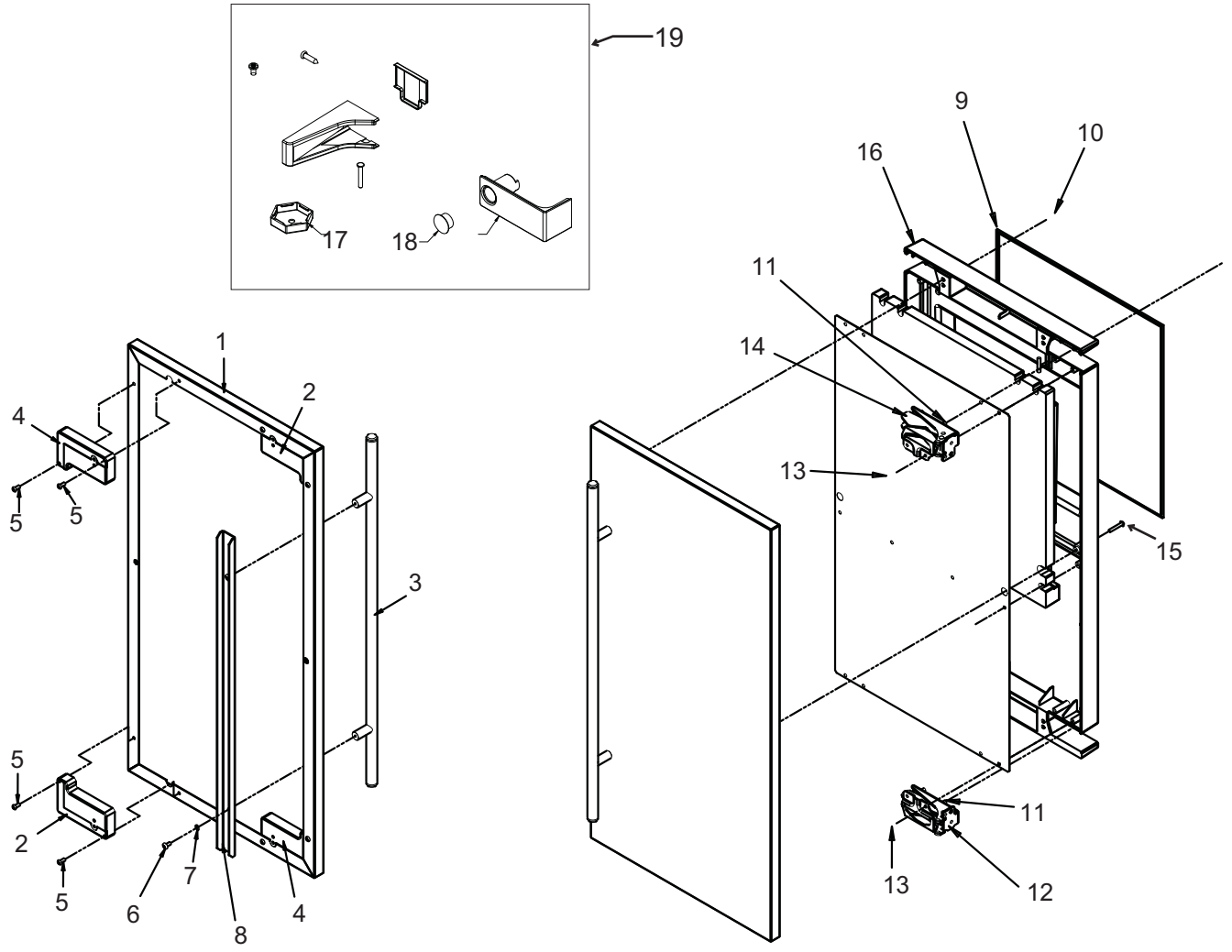
SCCG30 & SCCP30 Service Parts

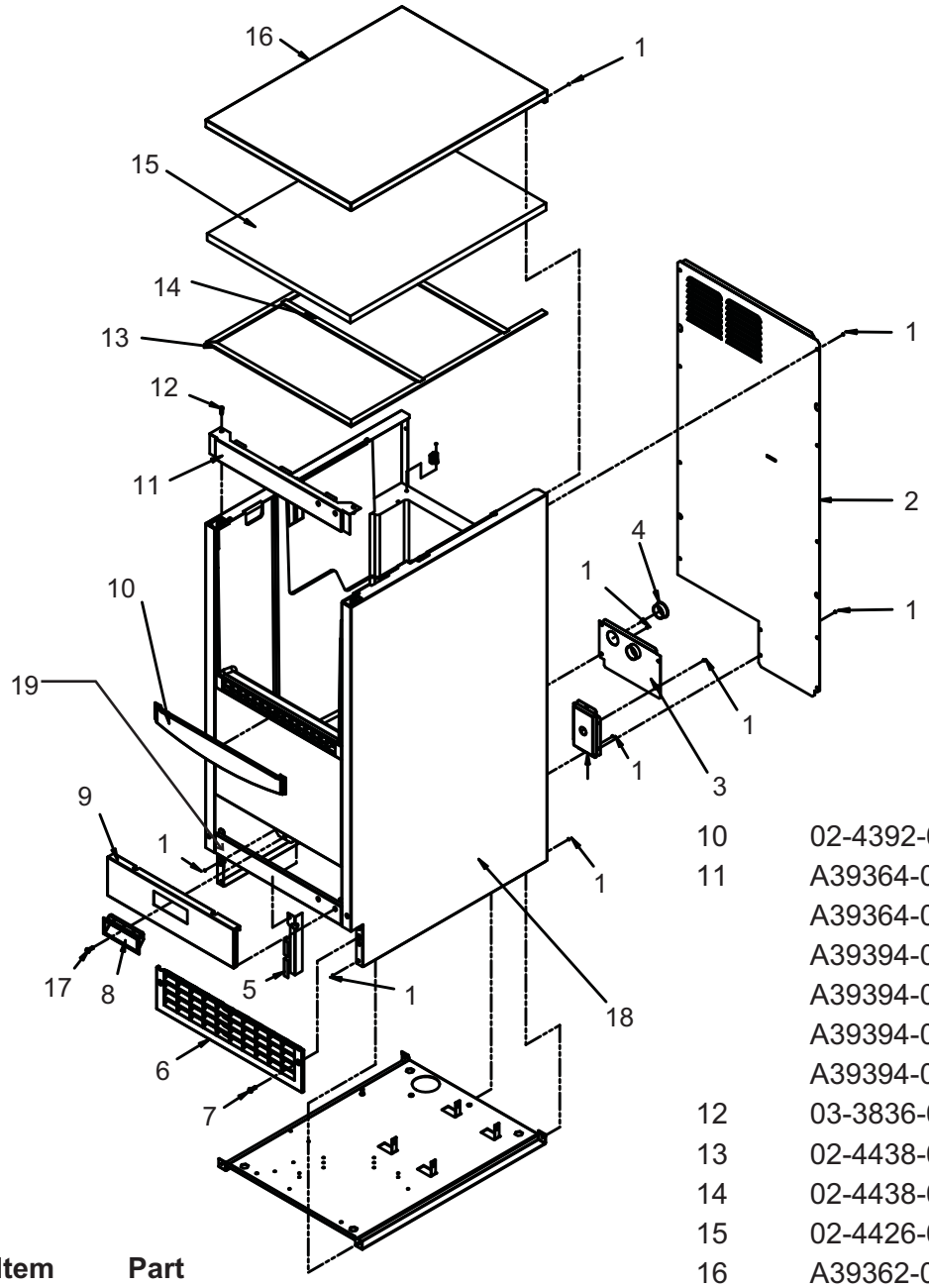
Door



Item Number	Part Number	Description
1		Door panel kits. Kits include items 1 thru 8.
	KDFW	White panel, white handle
	KDFWS	White panel, SS handle
	KDFB	Black panel, black handle
	kDFBS	Black panel, SS handle
	KDFS	SS panel, SS handle
2	02-4433-01	Corner block, RH
3	02-4430-42	Handle, white
	02-4430-52	Handle, black
	02-4430-01	Handle, SS
4	02-4433-02	Corner block, LH
5	03-1531-01	Screw
6	03-3811-01	Screw
7	03-1410-07	Lockwasher
8	A39390-001	Support bracket
9	13-0949-01	Door gasket
10	03-1404-40	Screw
11	03-3818-01	Screw - hinge to cabinet
12	02-3866-04	Hinge - top right/bottom left
13	03-1404-24	Screw - hinge to door
14	02-3866-03	Hinge
15	03-1403-67	Screw
16	A39513-001	Door assembly, does not include door panel or hinges
17	02-4415-20	Leg cap, pack of 4
18	02-1875-07	Hole plug
19	02-4474-01	Hinge package

SCCG30 & SCCP30 Service Parts

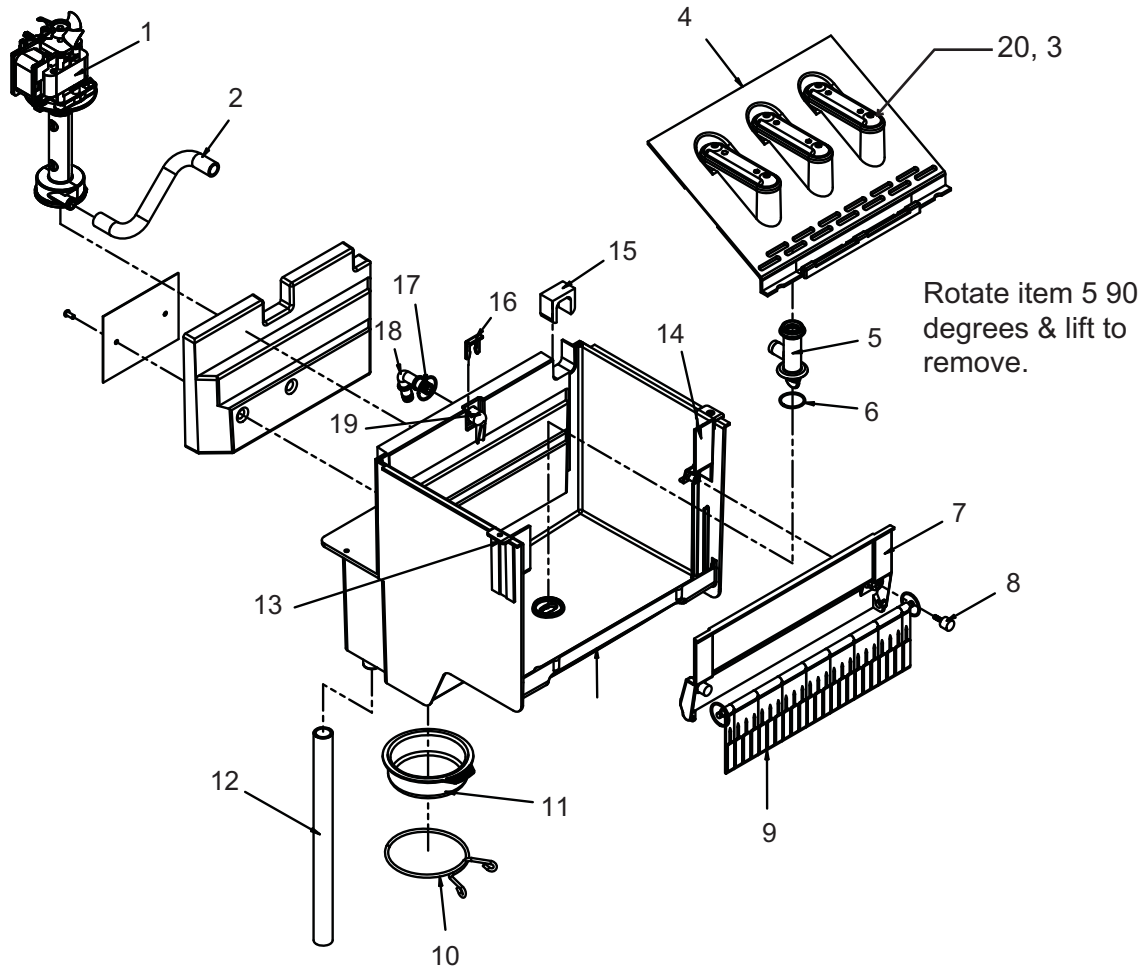
Cabinet



Item Number	Part Number	Description
1	03-1531-01	Screw
2	A39363-001	Back panel
3	A39389-001	Utility routing bracket
4	12-1213-11	Snap bushing
5	A39392-001	Srv panel mntg bracket
6	02-4390-01	Kickplate
7	03-1403-86	Screw
8	02-4441-01	Panel handle
9	A39381-001	Service panel, white
	A39381-002	Service panel, black
	A39381-003	Service panel, SS
10	02-4392-01	Bin edging
11	A39364-001	Top hinge brkt, RH white
	A39364-002	Top hinge brkt, RH black
	A39394-003	Top hinge brkt, RH SS
	A39394-004	Top hinge brkt, LH white
	A39394-005	Top hinge brkt, LH white
	A39394-006	Top hinge brkt, LH SS
12	03-3836-03	Screw
13	02-4438-01	Gasket
14	02-4438-02	Gasket strip
15	02-4426-01	Insulation pad
16	A39362-001	Top panel, white
	A39362-002	Top panel, black
	A39362-003	Top panel, SS
17	03-1403-86	Screw
18	A38378-001	White cabinet & bin
	A39378-002	Black cabinet & bin
	A39378-003	SS cabinet & bin
19	A39385-001	Btm hinge brkt, right white
	A39385-002	Btm hinge brkt, right black
	A39385-003	Btm hinge brkt, right SS
	A39385-004	Btm hinge brkt, left white
	A39385-005	Btm hinge brkt, left black
	A39385-006	Btm hinge brkt, left SS

SCCG30 & SCCP30 Service Parts

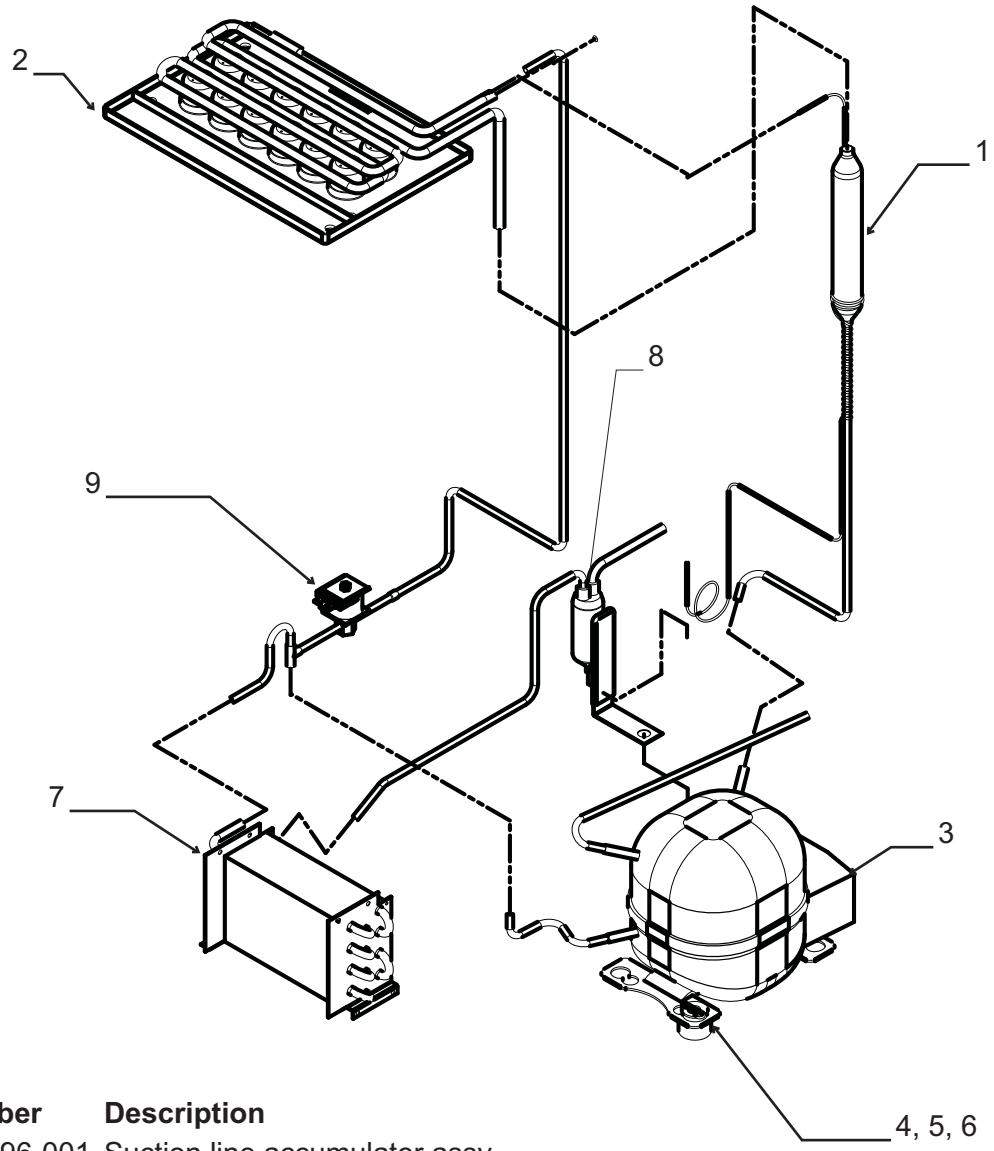
Reservoir and Spray Pump



Item Number	Part Number	Description
1	12-2986-21	Water pump
2	02-4379-01	Pump discharge hose
3	02-4370-21	Spray nozzle, kit. Set of 3 nozzles, o-rings, screws and nuts.
4	02-4371-02	Spray platform
5	02-4368-01	Water Tee
6	13-0617-11	O-ring
7	02-4365-01	Front bracket
8	03-3892-01	Thumb screw
9	A39357-001	Curtain
10	02-4383-01	Clamp
11	02-4508-01	Drain cap
12	02-4428-01	Drain tube
13	02-4375-01	Evap bracket, left
14	02-4375-02	Evap bracket, right
15	02-4475-01	Grommet
16	02-4381-03	Clip
17	13-0617-04	O-ring
18	02-4381-01	Barbed fitting
19	02-4381-02	Spout
20	02-4373-01	O-ring

SCCG30 & SCCP30 Service Parts

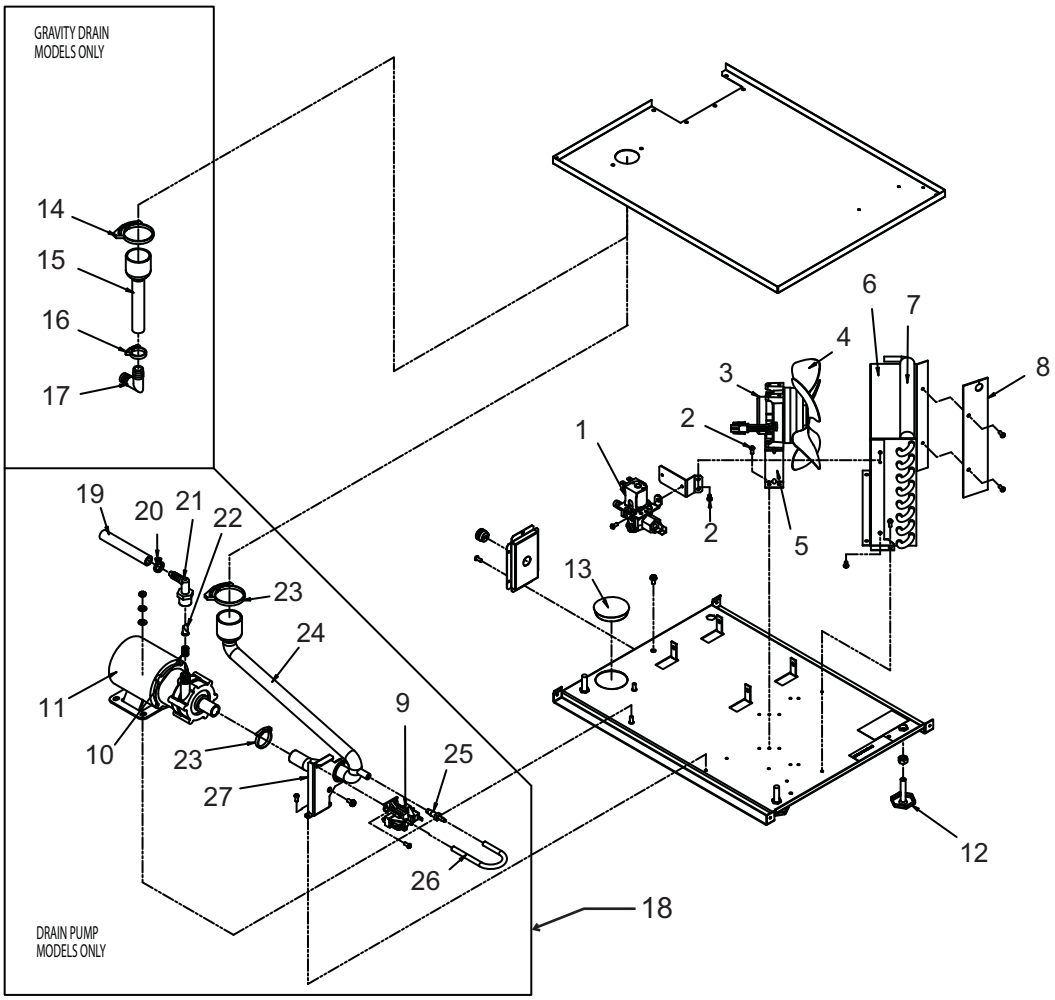
Refrigeration System



Item Number	Part Number	Description
1	A39396-001	Suction line accumulator assy
2	02-4376-02	Evaporator
3	18-8776-21	Compressor
Compressor includes overload, relay and drier		
3a	18-8776-52	Overload
3b	18-8776-51	Relay
4	03-3821-01	Clip
5	03-1407-08	Washer
6	18-4700-28	Grommet
7	18-8940-01	Condenser
8	02-4416-01	Drier
9	11-0562-21	Hot gas valve
9a	11-0562-22	HGV coil

SCCG30 & SCCP30 Service Parts

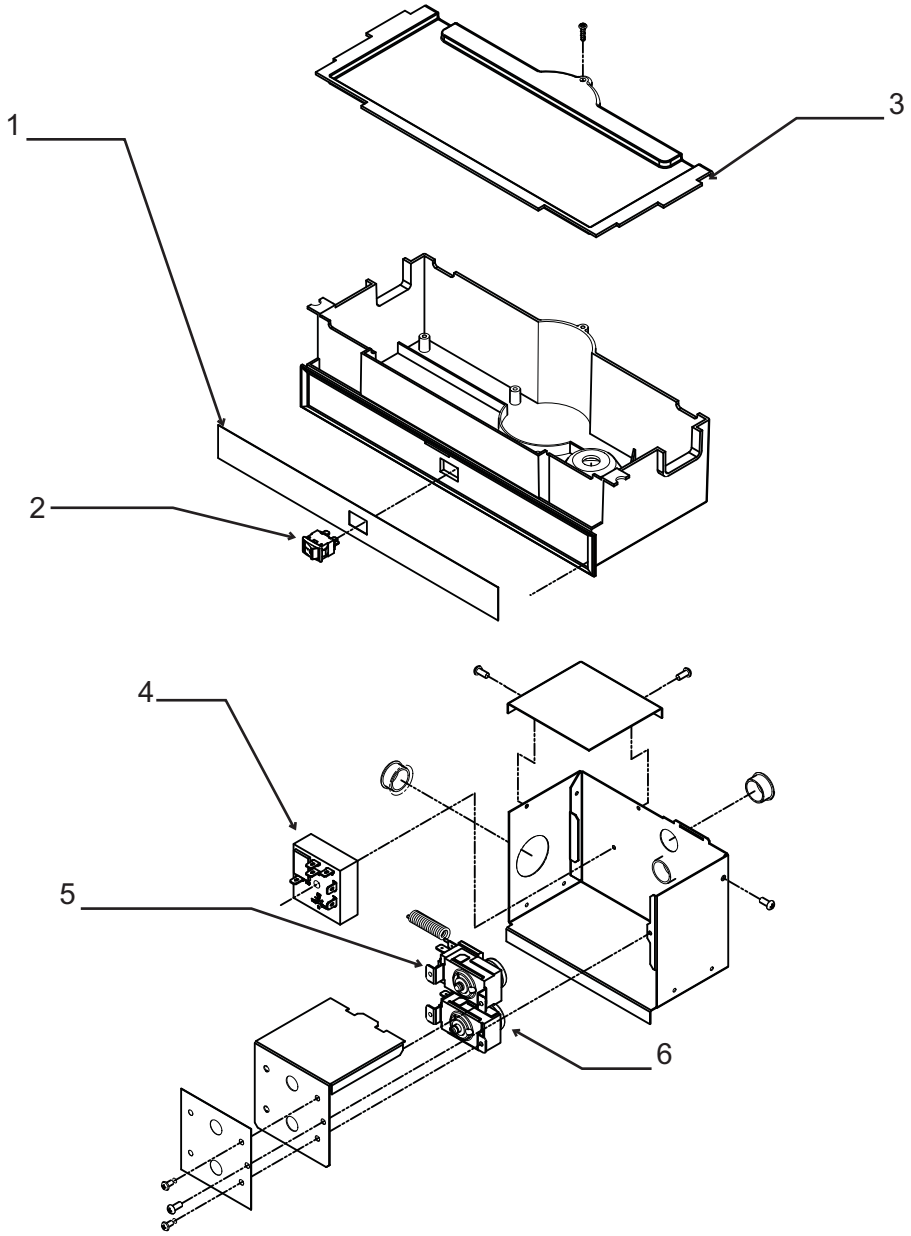
Under Bin Parts



Item Number	Part Number	Description
1	12-2990-01	Inlet water sol valve
2	03-1531-01	Screw
3	12-3024-01	Fan motor
4	02-4197-01	Fan blade
5	A39556-001	Fan motor bracket
6	A39460-001	Fan shroud
7	13-0909-01	Gasket, order 1 & cut to fit
8	02-4450-01	Air baffle
9	11-0504-01	Pressure switch
10	03-3904-01	Spring
11	12-2503-21	Pump & motor only
12	03-1608-01	Leg leveler
13	02-1875-18	Hole plug
14	02-2814-13	Hose clamp
15	02-4412-01	Drain hose
16	02-2814-08	Hose clamp
17	16-0671-01	Elbow
18	A39462-021.	Pump kit
19	A37334-001	Discharge hose
20	02-0534-02	Hose clamp
21	02-3522-01	Elbow
22	02-3374-01	Check valve
23	02-2814-13	Hose clamp
24	02-4413-01	Drain tube
25	02-3406-01	Barbed connector
26	05-0591-01	Switch hose
27	A39370-001	Switch bracket

SCCG30 & SCCP30 Service Parts

Control System

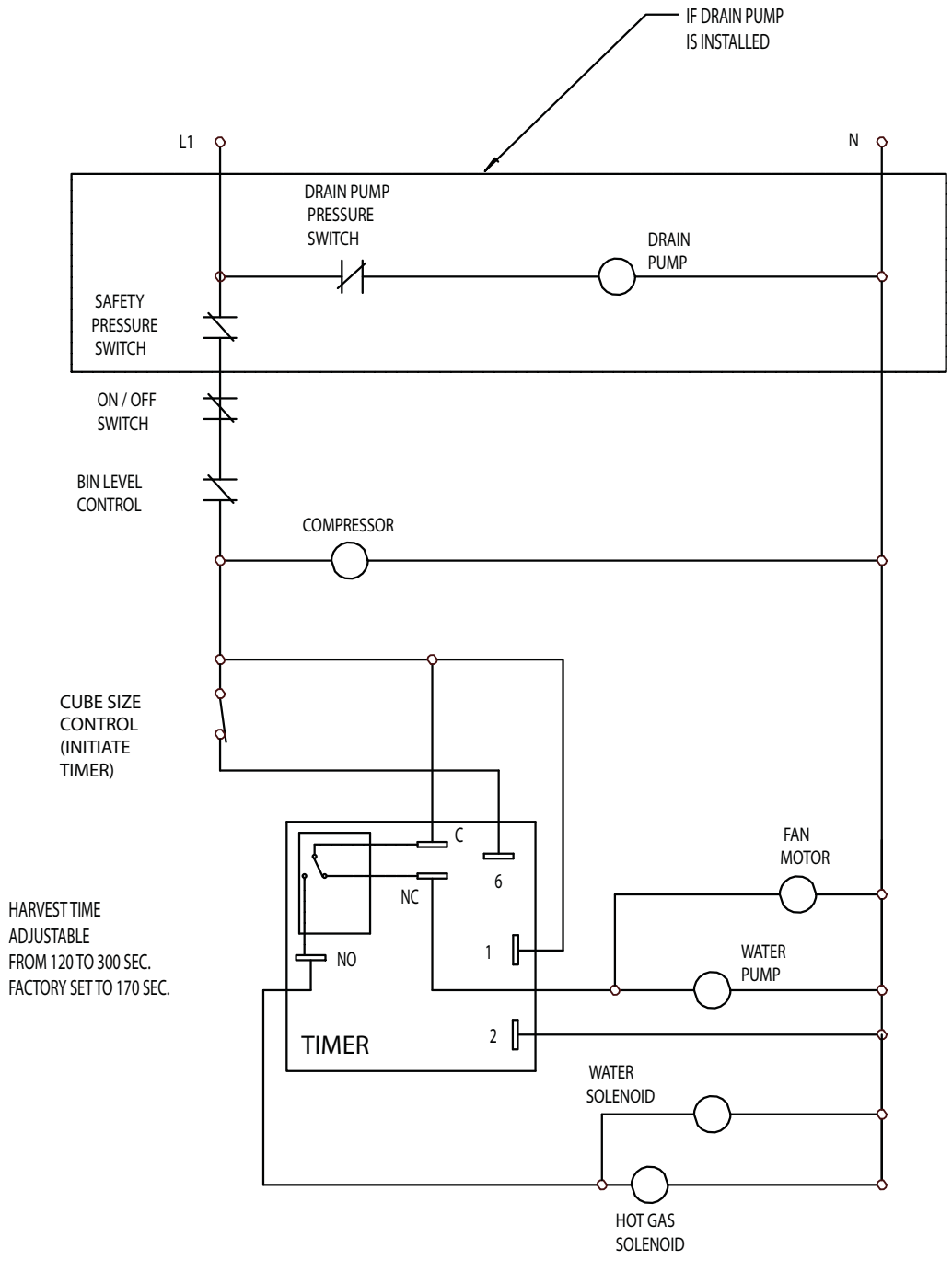


Item Number	Part Number	Description
1	02-4436-01	Graphic overlay
2	12-2991-01	Power switch
3	02-4386-01	Cover
4	12-2985-01	Timer
5	11-0584-21	Cube size thermostat
6	11-0578-21	Bin thermostat

Not Shown:

NS1	12-3005-02	Hi voltage harness, lower
NS2	12-3005-01	Hi voltage harness, upper

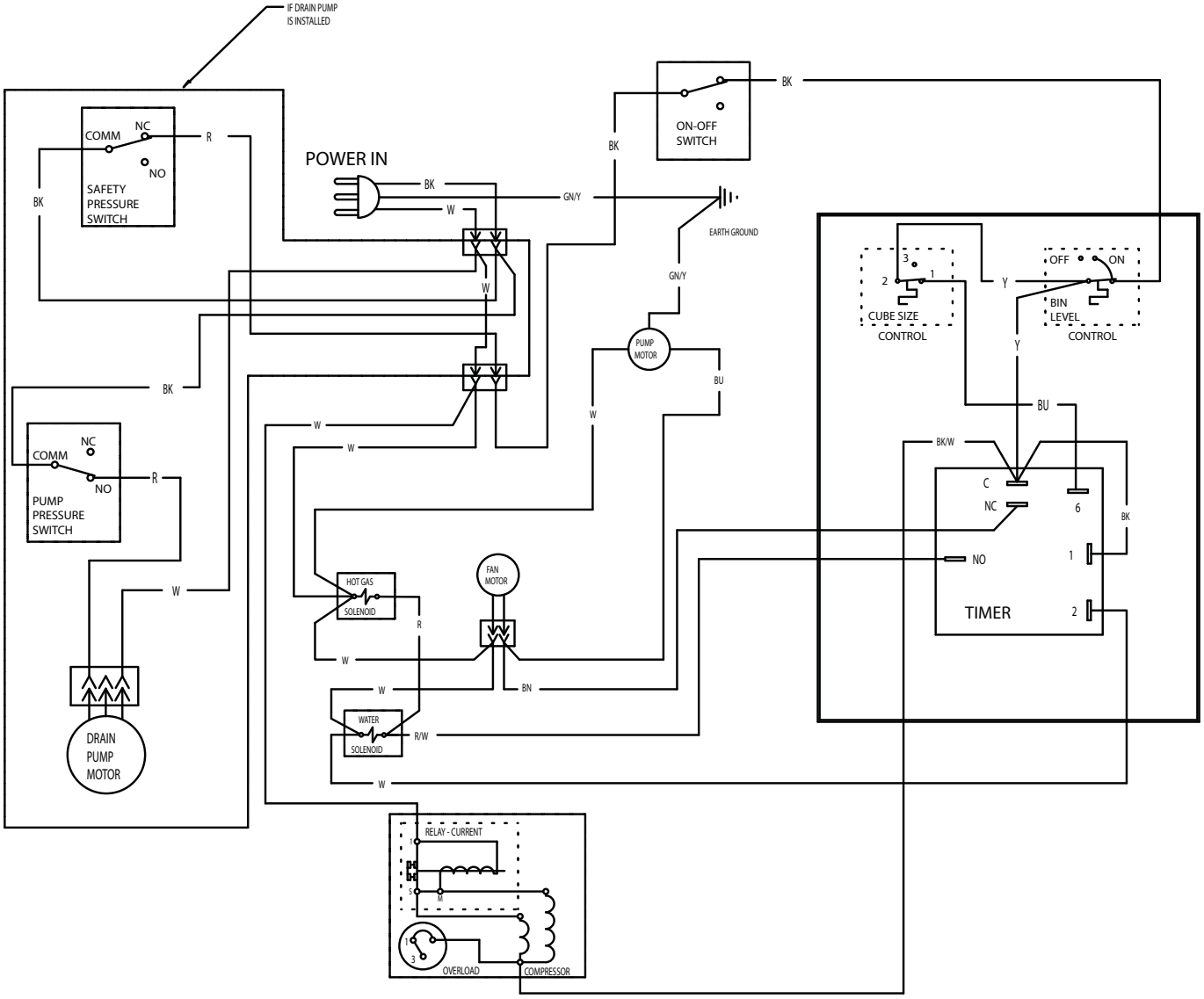
Schematic Diagram



SWITCHES ON THIS UNIT
SHOWN IN TIMED PORTION
OF THE FREEZE CYCLE
WITH DRAIN PUMP IN OPERATION

SCCG30 & SCCP30 Service Parts

Wiring Diagram



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17-3264-02